days before this year with maximums 90° or warmer); July 2, 7 a. m., 90°; July 6, 139° in sun on sand, 106° in shade at 1 p. m.; previous maximum in twenty-one years, 100°; July 9, max. 101°, 9 p. m., 90°; July 10, 9 a. m., 94°, sea breeze then drove mercury below 90°; July 12, 10 a. m., 94°, rainstorm begins; extremes of temperature to 5 p. m., 78° and 86°, with rain falling. July 14, 9:30 a. m., minimum in the course of the storm, 70°. The unbroken hot wave in which temperatures equaled or exceeded 90° ended July 12, having lasted twelve consecutive days, being the severest on record. The thermometer recorded 90° or more from July 1 to July 25, inclusive, with two separate exceptions, being unequaled in twenty-one years of observation. July 13, 10 p. m., wind south; wind sprang up and became a very heavy gale at 4 a. m. of the 14th; at 9:30 a. m. of the 14th the rainfall for forty-seven hours had amounted to 8.38 inches, being the maximum in twenty-one years; the additional fall during the next twelve hours, including a thundershower, brought the total up to 9.27 inches in fifty-nine hours; the rainfall from July 12 to July 31, inclusive, amounted to 15.73 inches; the total rainfall, estimated, for the month is 21 inches (estimated within one-half inch), being unequaled in twenty-one years; October 16, at Central Vermont Railroad station, maximum temperature 92°, being the highest on record there in October.

1898. Severe cold spell before and after the storm of January 31 and February 1; February 3, minimum temperature —28.5°; February 3, at the toll bridge, lowest and coldest place in town, minimum temperature —35°; January 31 and February 1, total snowfall with gale, 2 feet; February 1, depth of snow on ground, 3½ feet, being the greatest on record; May 31, rain has been recorded for thirty-six days out of the past forty-eight. Frequent showers continued until June 29, inclusive, completing a record of fifty-five rainy days in seventy-seven. The total rainfall was not very excessive.

Mr. Elmer considers that the location of Northfield is so central relative to New England that its extremes must be typical of the whole surrounding region, and as a curious commentary on the New England climate, he states that within the thirty days, June 23 to July 23, and within a radius of 50 miles, they have experienced the following vicissitudes of weather: "A garden-killing frost; a two-inch snowstorm; hail; 101° in the shade; heavy thunderstorms; imitation cloudbursts; tornado from westerly points; northeast gale and rainstorm; three weeks drought; great rise and great fall of temperatures, etc."

RAINFALL AT FIRMEZA, NEAR SANTIAGO, CUBA.

Communicated by JOSIAH MONROE, Esq.

Through the kindness of the Secretary of State the Weather Bureau has received a copy of the following letter and table which constitutes an important contribution to our knowledge of the meteorology of the eastern portion of Cuba. Owing to the mountainous character of the country, it is evident that very many more stations will be necessary in order to give us anything like a true idea of the normal climate of that province.

The Secretary and Treasurer of the Juragua Iron Company, Limited, Mr. Josiah Monroe, at Philadelphia, writes to the Secretary of State under date of April 15, 1898, as follows:

In this connection I beg to present herewith a statement taken from the actual weather records kept since July, 1888, at Firmeza, our mining village in the mountains, near the city of Santiago de Cuba, showing the rainfall in each month and the total for each year.

It is probably needless to mention what is of general knowledge, that the rainy season begins in the latter part of April and extends with varying severity through October. The months of by far the heaviest rainfall are May, September, and October, and these months by reason of this very great humidity are comparatively unhealthy.

These remarks are intended to bring out the fact that although at the present moment the climate in the Island is dry and healthful, we are just on the border land of the rainy season, when all outdoor operations are liable to be considerably impeded by the weather.

The following data is copied from the records of the Juragua Iron Company, Limited. Firmeza is the mining town of the company, and is located about 16 miles east of the city of Santiago de Cuba and about 5 miles inland; it is among the mountains and about 500 feet above sea level.

Year.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Annual.
1888	.....	.....	.....	.....	.....	.....	1.61	7.80	19.45	5.19	4.70	1.75	.....
1889	0.04	0.60	10.22	8.86	11.90	2.90	1.35	8.40	21.78	9.38	1.01	0.31	76.75
1890	2.22	0.56	8.58	2.19	6.62	4.25	3.80	4.01	10.78	1.89	9.60	1.34	55.84
1891	2.48	1.10	0.81	9.10	6.43	8.85	2.30	7.15	5.15	13.94	2.61	0.22	60.14
1892	3.18	1.42	0.39	1.40	7.91	1.15	4.43	10.10	4.16	13.98	1.74	1.65	51.51
1893	0.91	1.07	0.86	3.56	9.92	2.38	5.16	11.57	7.23	9.94	5.43	2.50	60.53
1894	0.54	0.15	2.26	2.37	11.79	8.90	2.25	5.04	7.49	12.92	0.60	1.93	56.24
1895	0.13	0.90	0.38	1.71	8.15	5.78	5.92	4.45	8.30	19.20	8.14	0.36	63.42
1896	2.90	4.35	1.62	0.39	7.54	0.48	2.20	9.65	17.07	6.35	0.97	4.70	58.22
1897	0.05	0.00	0.77	4.80	11.05	6.80	8.60	2.75	10.10	38.65	5.70	1.30	90.57
1898	0.40	1.83	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Mean 1889–97	1.38	1.13	2.88	3.82	9.03	4.61	4.00	7.01	10.23	14.03	3.98	1.59	63.69

The Editor has added the monthly means for the nine complete years, 1889–1897, but the careful reader will perceive that these are far from representing normal values, owing to the great range of monthly rainfall shown by the figures in each column.

MEXICAN CLIMATOLOGICAL DATA.

Through the kind cooperation of Señor Mariano Bárcena, Director, and Señor José Zendejas, vice-director, of the Central Meteorologico-Magnetic Observatory, the monthly summaries of Mexican data are now communicated in manuscript, in advance of their publication in the *Boletin Mensual;* an abstract translated into English measures is here given in continuation of the similar tables published in the MONTHLY WEATHER REVIEW since 1896. The barometric means have not been reduced to standard gravity, but this correction will be given at some future date when the pressures are published on our Chart IV.

Mexican data for June, 1898.

Stations.	Altitude.	Mean barometer.	Temperature.			Relative humidity.	Precipitation.	Prevailing direction.	
			Max.	Min.	Mean.			Wind.	Cloud.
	Feet.	*Inch.*	° *F.*	° *F.*	° *F.*	%	*Inch.*		
Aguascalientes	6,106	23.86	88.5	57.4	72.9	56	4.86	ne., se.	ese.
Durango (Seminario)	6,243	24.39	90.5	50.0	72.3	37	1.95	sw.	e
Leon (Guanajuato)	5,984	24.26	89.8	53.6	71.8	48	5.95	ese.	ne.
Linares (New Leon)	1,188	28.67	96.1	64.4	79.2	66	2.72	se.	s.
Magdalena (Sonora)	2,618	.....	95.9	70.0	80.6	.....	5.08	sw.	n.
Mexico (Obs. Cent.)	7,472	23.04	80.2	51.4	63.0	62	3.95	n.	ne.
Morelia (Seminario)	6,401	23.94	86.2	55.6	67.6	68	3.60	sw.	ne., e.
Oaxaca	5,164	25.03	91.8	52.9	71.6	70	7.33	s.	e.
Puebla (Col. Cat.)*	8,752	23.33	81.3	44.6	66.9	70	4.32	e.	s.
San Isidro (Hac.)	.....	.....	82.4	66.2	.....	.....	4.21	.....	.....
Tampico (Tam.)	38	29.88	91.9	69.4	81.3	79	16.85	se.	se.
Tuxpan (Vera Cruz)	.....	30.14	98.6	71.6	80.1	79	9.08	e.	e.
Zacatecas	8,015	22.48	85.8	48.6	64.0	54	1.12	e.	e.

*This new altitude responds to a change of 500 meters, and may be a clerical error in the original manuscript.—ED.

OBSERVATIONS AT HONOLULU.

Through the kind cooperation of Mr. Curtis J. Lyons, Meteorologist to the Government Survey, a copy of the daily record at Honolulu is communicated to the Weather Bureau in advance of its official publication, and is herewith printed, as a special contribution, for the convenience of those who are studying the relations of the storms and weather of the United States to those of adjacent countries, with a view to long-range, seasonal predictions.

Meteorological observations at Honolulu.

JUNE, 1898.

June, 1898.	Pressure at sea level. 7 a. m.	3 p. m.	9 p. m.	Temperature. 7 a. m.	2 p. m.	9 p. m.	Maximum.	Minimum.	Relative humidity. 7 a. m.	2 p. m.	9 p. m.	Wind. Direction.	Force.	Cloudiness.	Rain measured at 6 a. m.
1.	30.04	30.00	30.08	72	80	74	81	72	70	56	74	ne.	4	4-2	0.00
2.	30.06	30.01	30.05	71	79	73	82	69	74	60	74	ne.	3	3	0.03
3.	30.04	29.99	30.04	71	80	72	82	71	78	57	82	nne.	3	4	0.00
4.	30.06	30.01	30.07	70	79	73	80	69	70	58	72	*n.*	3-1	4-1	0.18
5.	30.03	30.00	30.05	71	76	71	78	69	67	60	77	ne.	3	5	0.01
6.	30.02	29.99	30.04	70	78	72	80	66	73	65	77	ne-e.	3	4	0.31
7.	30.04	30.00	30.05	70	80	71	81	67	77	66	90	ene.	3-1	2 8	0.06
8.	30.04	30.01	30.08	70	79	71	80	68	....	70	84	s-ne.	1	3-10	0.32
9.	30.07	30.02	30.09	68	81	74	82	65	82	61	74	s-ne.	1	0-5	0.20
10.	30.09	30.04	30.09	72	81	75	81	70	79	60	72	ne.	3	3	0.00
11.	30.09	30.04	30.09	74	77	75	79	73	67	59	70	ene.	4	8-10	0.00
12.	30.06	30.02	30.08	74	80	74	81	73	70	59	70	ne.	3	5-1	0.00
13.	30.06	30.04	30.11	73	81	75	82	72	70	59	74	ne.	2-4	3	0.00
14.	30.14	30.11	30.17	72	80	74	81	71	....	54	70	ne.	3	2	0.03
15.	30.16	30.11	30.15	71	79	74	81	70	82	62	78	ne.	3-1	6-3	0.08
16.	30.14	30.09	30.13	72	80	74	82	70	70	57	71	nne.	3-1	5-2-6	0.02
17.	30.10	30.02	30.06	72	77	73	82	69	70	70	86	ne.	3-1	1	0.00
18.	30.05	30.01	30.08	69	82	75	84	65	82	55	70	ne.	2	2	0.02
19.	30.10	30.07	30.12	71	82	75	84	68	82	58	74	nne.	2	1	0.00
20.	30.11	30.04	30.09	74	82	75	84	73	72	55	74	nne.	2	1	0.00
21.	30.09	30.01	30.04	70	82	76	84	69	67	55	74	ne.	2	1	0.00
22.	30.04	30.07	30.10	71	75	73	82	71	80	91	95	se-ne.	0-1	7-10	0.02
23.	30.14	30.11	30.16	68	81	76	83	68	91	65	72	ne.	3	3-1	1.26
24.	30.13	30.10	30.12	74	80	74	81	73	70	59	82	w-e-nne.	3	8-5	0.00
25.	30.06	30.00	30.05	74	80	76	81	71	74	64	72	ene.	3-5	3	0.06
26.	30.04	30.02	30.05	74	80	76	82	71	82	68	70	ene.	4-5	5	0.10
27.	30.05	30.03	30.09	74	77	76	81	74	74	67	64	ene-nne.	4	5-8	0.06
28.	30.05	30.01	30.09	73	78	75	81	72	67	62	67	nne.	3	5-8	0.03
29.	30.04	29.99	30.04	72	80	75	81	69	78	54	70	nne.	2-4	5-2	0.10
30.	30.02	29.97	30.05	68	80	74	82	67	87	63	78	ne.	3	2	0.01
	30.07	30.03	30.08	71.5	79.5	74.0	81.5	69.9	....	62	75	.....	2.5	4.2	2.90

The station is at 21° 18′ N., 157° 50′ W.; altitude 50 feet.

Pressure is corrected for temperature and reduced to sea level, but the gravity correction, −0.06, is still to be applied.

The average direction and force of the wind and the average cloudiness for the whole day are given unless they have varied more than usual, in which case the extremes are given. The scale of wind force is 0 to 10. Two directions of wind, or values of wind force, connected by a dash, indicate change from one to the other.

The rainfall for twenty-four hours is given as measured at 6 a. m. on the respective dates.

Monthly mean temperature (7 + 2 + 9) ÷ 3 is 75.0, and the normal mean is 76.5. The normal rainfall for June is 1.56. The rain gauge, 8 inches in diameter, is 1 foot above ground. Thermometer, 8 feet above ground. Ground is 50 feet above sea level.

OBSERVATIONS AT PORT AU PRINCE, HAITI.

Through the kind cooperation of Prof. T. Scherer of Port au Prince, Haiti, the meteorological observations taken by him at 7 a. m., local time, or 11:49 a. m., Greenwich time, are communicated in manuscript for early publication in the MONTHLY WEATHER REVIEW. By entering these on the monthly and annual charts, published by the Weather Bureau, we obtain an important extension southeastward of our field of study. The observations are taken 1h 11m earlier than those of the Weather Bureau telegraph system. The original reports are in metric measures; the conversions are by the Editor.

The barometer is 119 feet above sea level; its readings have been corrected by Professor Scherer for temperature and elevation, but not for gravity, this latter correction is —0.064 inch; the thermometers are 6.7 feet above ground; the rain gauge, 7.2 feet above ground. The wind velocity is given in miles per hour.

The position of Port au Prince, Haiti, is latitude 18° 34′ N., longitude 72° 21′ W., or 4h 49m west of Greenwich. Additional records for this station are published in the annual volumes of the Central Meteorological Institute at Vienna.

Observations at Port au Prince, Haiti.

JUNE, 1898.

Date.	Barometer reduced.	Temperature. Air.	Dew-point.	Rel. humidity.	Wind. Direction.	Velocity.	Clouds. Kind.	Amount.	Direction.	Preceding 24 hours. Total rain.	Temperature. Max.	Min.
	Inches	°	°	%						*Inch.*	°	°
1.....	29.95	76.3	70.0	82	e.	4	ck	7	w.	1.06	89.6	70.5
2.....	29.95	75.6	70.3	85	ese.	7	ck, ks	8	w.	.....	89.4	70.5
3	29.99	77.7	75.0	92	e.	9	k, ck	3	ssw.	T.	91.2	73.4
4.....	30.01	77.9	71.2	81	e.	9	.....	0	.....	1.70	92.3	70.7
5.....	29.98	75.9	71.8	88	.....	0	ck	3	sw.	0.14	90.7	70.0
6	29.97	76.3	68.2	76	e.	9	pc.	10	.....	0.00	88.5	74.3
7.....	29.98	78.3	69.8	77	e.	11	ck; cs	7	sw; wnw.	0.00	90.5	76.3
8.....	30.00	78.3	71.8	81	ese.	16	cs	4	n.	0.00	91.2	76.3
9.....	30.03	79.9	70.0	73	ese.	7	cs	8	w	0.00	91.4	75.4
10.....	30.06	78.4	66.6	68	se.	4	cs	1	.....	0.00	92.3	73.4
11.....	30.04	78.8	74.5	87	se.	9	cs	4	wsw.	0.00	91.6	76.5
12.....	30.08	77.9	66.0	69	ene.	7	k	9	se.	0.00	93.0	75.2
13.....	30.09	78.4	68.5	73	e.	4	c	1	.....	0.00	93.9	72.0
14.....	30.08	75.7	72.9	91	ne.	2	cs	9	.....	0.00	89.6	72.0
15.....	30.07	79.5	68.2	70	ese.	7	ck, cs	1	w, sw.	0.00	93.4	72.1
16.....	30.04	79.5	66.6	66	e.	4	cs	1	wnw.	0.00	93.0	73.6
17.....	30.03	77.0	67.6	74	e.	2	k	1	.....	0.00	94.6	73.2
18.....	30.04	80.6	65.8	63	e.	7	.....	0	.....	0.61	94.5	73.8
19	30.05	79.7	68.7	70	ese.	9	.....	0	.....	T.	95.9	72.5
20.....	30.04	79.2	68.2	70	e.	7	s	1	.....	0.00	85.6	74.8
21.....	30.04	78.1	66.7	70	se.	2	pc	10	.....	0.00	86.0	74.8
22.....	30.06	78.1	67.8	72	e.	9	ck	1	se.	0.00	95.5	73.6
23.....	30.06	80.4	70.0	72	e.	4	cs	1	s.	0.00	94.8	73.8
24.....	30.06	79.7	67.3	68	ese.	9	cs, k	2	.....	0.00	95.2	73.4
25.....	30.03	77.0	67.6	74	ese.	4	cs	2	.....	0.00	93.2	72.5
26.....	30.04	80.4	67.6	67	ese.	13	.....	0	.....	T.	92.7	72.7
27.....	30.09	77.0	64.9	68	se.	4	cs	1	.....	T.	93.2	73.8
28.....	30.06	78.8	67.5	66	ene.	4	cs, k	4	.....	0.28	93.7	72.3
29.....	30.03	73.9	0.2	88	.....	0	cs	1	w.	1.38	93.0	70.2
30.....	30.04	74.3	70.9	90	e.	4	.....	0	.....	0.52	91.4	70.0
Sum...	.....	.....	.....	.....	.....	.....	.....	...	.....	5.69	.....	.....
Means.	30.03	77.9	69.1	75.7	.....	7	.....	....	.....	...	92.1	73.0

p = pallio.

NOTES BY THE EDITOR.

SEASONAL FORECASTS IN OREGON.

For several years past the attention of our readers has been called to the spring and autumn predictions for the coming summer and winter, respectively, as published by Mr. B. S. Pague, Local Forecast Official at Portland, Oreg. We quote the following from the morning weather map of July 7, 1898, as published by the Weather Bureau at Portland, Oreg.:

The first summer type of weather conditions appears this morning. The appearance of this type marks the commencement of the summer or dry season over the Pacific Northwest. From now until the appearance of the winter type, little or no rain will fall. There will be two, three, or four days of clear, warm weather; then winds changing to the southwest, barometer rising, high fog, and cool weather for twenty-four or thirty-six hours; during the change sprinkles of rain will occur along the Oregon and Washington coast, and sometimes over western Washington and northwestern Oregon; then a day of clear weather and delightfully mild temperatures, then from two to four days of high temperatures again. The cycle is again repeated. Such are the weather conditions prevailing under the summer type. Occasionally thunderstorms occur; these follow heated periods.

Under the summer type, hot north to east winds are probable east of the Cascades; such winds never prevail except under this one distinct type. The appearance of the summer type of weather conditions is later than usual; the dates of the appearance of the summer and winter types for the past few years are:

SUMMER.		WINTER.	
1895	April 20	1895	November 12
1896	June 13	1896	October 20
1897	April 11	1897	October 19
1898	July 7		

Fair weather has prevailed over the Pacific Northwest during the past twenty-four hours. No precipitation has occurred.

The temperature has remained nearly stationary; it ranges from 48° at Fort Canby and Spokane to 56° at Idaho Falls and Wallawalla.

The weather is clear this morning, with northerly winds.

METEOROLOGICAL OBSERVATIONS IN THE KLONDIKE.

In the July number of the Scottish Geographical Magazine, Mr. William Ogilvie, astronomer and land surveyor to the Dominion of Canada, gives some account of the geog-